



Motor Vehicle Traffic Crashes as a Leading Cause of Death in the United States, 2015

Summary

For the seventh consecutive year, motor vehicle traffic crashes in 2015 were not among the top 10 causes of death in the United States. Motor vehicle crashes were the 13th leading cause of death overall among all causes. This continued drop in the rank of motor vehicle traffic crashes as a leading cause of death can be attributed to the 19-percent decline in traffic fatalities over the last decade. Nevertheless, despite this drop, motor vehicle traffic crashes continue to be among top 10 leading causes of death among younger age groups.

When motor vehicle traffic crashes were ranked within unintentional injury deaths, they were the second leading cause of death during 2015. Among unintentional injury deaths, motor vehicle deaths were the second leading cause for all ages.

Assessing by another measure, the years of life lost (i.e., the number of years people would have lived had they not died), motor vehicle traffic crashes ranked 7th in 2015, as it has been ranked since 2010. This reflects the toll that motor vehicle traffic crashes take on the younger population.

Background

The National Center for Health Statistics (NCHS), a division of the Centers for Disease Control and Prevention (CDC), publishes detailed tabulations of the leading causes of death in its annual report on mortality. In these tabulations, the fatalities due to motor vehicle traffic crashes are included in the general category of “Unintentional Injuries,” even though such fatalities comprise a significant proportion of all fatalities, especially among the younger population. To highlight the contribution of motor vehicle crashes in causing fatalities, NHTSA considers them as a separate cause of death while ranking the leading causes of death. This Research Note examines the status of motor vehicle traffic crashes as a leading cause of death in the United States in 2015. The objective is to update the relevant statistics

reported in the previously published research note (DOT HS 812 297) that was based on the mortality data for 2012 to 2014. The ranking is based on 68 causes of death adopted by NHTSA’s National Center for Statistics and Analysis (NCSA) to rank the leading causes of death.

The list of 68 causes of death is comprehensive in that all underlying causes are represented in this list. Fifty-one of these 68 adopted causes reflect the underlying causes based on internal morbid bodily conditions, while 16 causes reflect the underlying causes based on external factors such as crashes and acts of violence, and the remaining one cause reflects all other diseases. This 68-cause listing is not arbitrary and closely agrees with the special listing of causes of death used by the NCHS to report statistics on leading causes of death in the United States. The latter differs from the NCSA listing primarily in causal areas related to unintentional injuries (accidental death). While the NCHS uses the combined cause of unintentional injuries in its reports of leading causes of death, this study separates out the various causes that comprise unintentional injuries like fatalities in motor vehicle traffic crashes, accidental falls, accidental poisoning, motor vehicle non-traffic/other crashes, etc. Accordingly, the rankings of some causes of death will differ from those reported by the NCHS. The NCSA-adopted listing of causes of death also differs from the NCHS listing in terms of causes of infant mortality. While the NCHS, for the sake of public health interest, uses a detailed, 130-cause listing, the NCSA list combines it into one major cause—conditions originating in the perinatal period.

Also, the fatality totals for motor vehicle traffic crashes reported by the NCHS differ marginally from those reported by NHTSA due to definitional differences. The NCSA uses the Fatality Analysis Reporting System (FARS), a census of fatal traffic crashes in the 50 States, the District of Columbia, and Puerto Rico to report fatality totals for each year. To be included in FARS a crash must involve a motor vehicle travelling on a trafficway customarily open to the public and result in the death of a person (occupant

of a vehicle or non-occupant) within 30 days of the crash. In contrast, the NCHS uses information reported on death certificates as original records. The information is filed in state registration offices and then a national database is compiled through the Vital Statistics Cooperation Program. Due to these differences, NHTSA underreports the fatality count and places the remaining difference in “motor vehicle nontraffic/other crashes.”

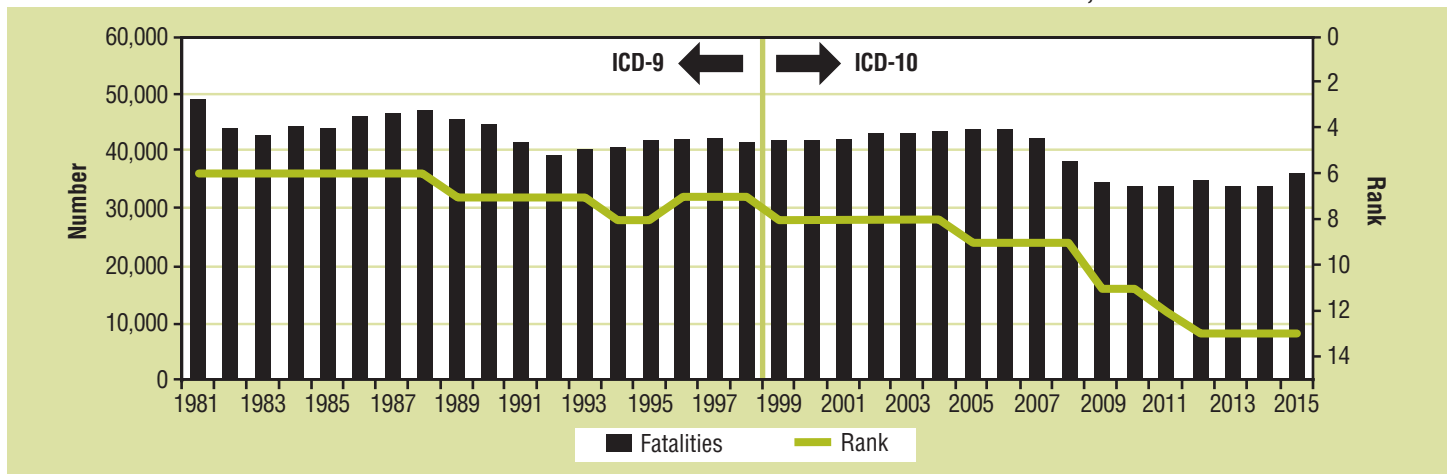
In order to highlight the tremendous toll that motor vehicle traffic crashes take on the younger population, NCSA also included the ranking based on the years of life lost (i.e., the number of years a person would have lived had he/she not died). Accordingly, this study found that while motor vehicle traffic crashes ranked 13th overall as a cause of death in 2015, they ranked as high as 7th in terms of the years of life

lost. These ranks follow the ranking of other major causes of death such as cancer (described in most such studies as a “neoplasm,” “neoplasms” or “malignant neoplasm[s],” such as the charts shown in this report), heart diseases, chronic lower respiratory diseases, suicide, stroke and accidental poisoning. (Birth defects are usually reported as “Congenital Anomalies.”)

Trends

Figure 1 shows the trend in the number of fatalities, as well as the rank of motor vehicle traffic crashes as a cause of death from 1981 to 2015. For the seventh consecutive year motor vehicle traffic crashes in 2015 were not among the top 10 causes of death in the United States.

Figure 1
Number and Rank of Motor Vehicle Traffic Crashes as a Cause of Death in the United States, 1981–2015*



*Please refer to the *Methodology* section in this note about making year-to-year comparisons of ranking.
Data Source: National Center for Health Statistics (NCHS) CDC, Mortality Data 1981–2015

Leading Cause of Death by Gender and Age

Figure 2 shows the trend of the rank of motor vehicle traffic crashes as a leading cause of death by gender. The rank of motor vehicle traffic crashes as a leading cause of death differed between males and females. In 2015, while ranked 13th overall, the motor vehicle traffic crashes ranked 12th among males and 16th among females as a cause of death.

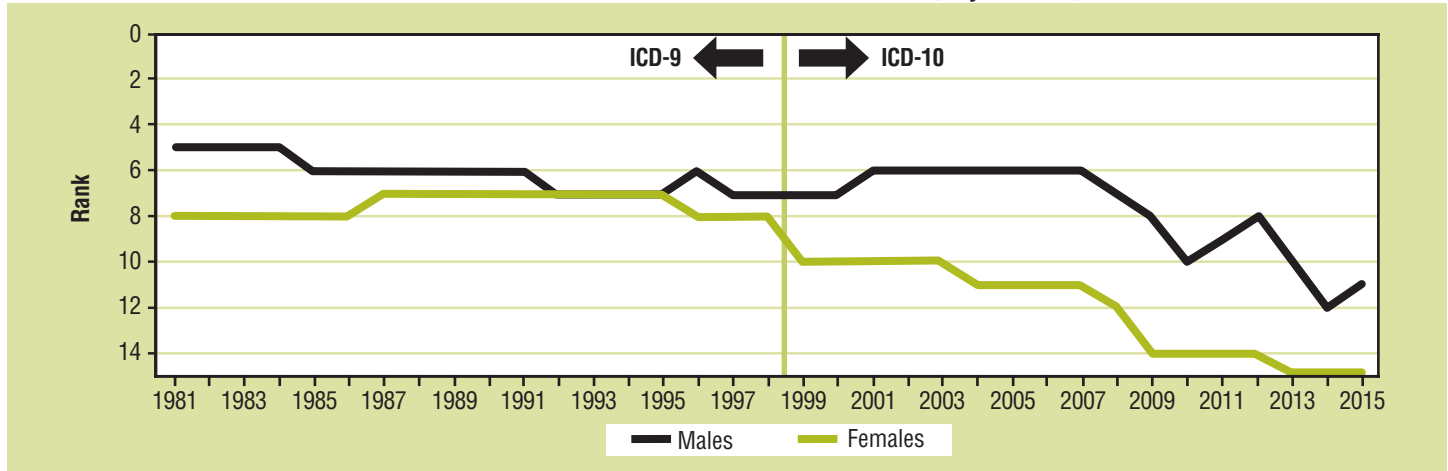
When ranked by specific ages, in 2015 motor vehicle traffic crashes were the leading cause of death among males for each age 10, 11, and 17 to 23. Among females, motor vehicle traffic crashes were the leading cause of death for each age 9 and 16 to 23.

Leading Cause of Unintentional Injury Death by Gender and Age

Unintentional injury as the 4th leading cause of death for 2015 NCHS lists. Unintentional injuries accounted for 5.4 percent of all deaths, while motor vehicle traffic crashes accounted for 23.9 percent of these deaths. The rank of motor vehicle traffic crashes as a leading cause of unintentional injury death varied little between males and females. When considering only unintentional injury deaths, motor vehicle traffic crashes were ranked second among males and third among females as a cause.

When ranked by specific ages, in 2015 motor vehicle traffic crashes were the leading cause of unintentional injury death among males for every age 5 to 23. Among females motor vehicle traffic crashes were the leading cause of unintentional injury death for each age 3 to 23.

Figure 2

Rank of Motor Vehicle Traffic Crashes as a Cause of Death in the United States, By Gender, 1981–2015*

*Please refer to the *Methodology* section in this note about making year-to-year comparisons of ranking.
Data Source: National Center for Health Statistics (NCHS) CDC, Mortality Data 1981–2015

Methodology

Years of Life Lost: This is the number of years that the person would have lived had he/she not died. The number of years of life lost due to a particular cause is the aggregate of years of life lost for all people who died due to that cause. The expected number of years of the remaining life of a person is calculated using standard tables of life expectancy by age (Revised Life Table for the Total Population: United States, 2012, NCHS).

The tables on the following page shows the top 10 leading causes of death and unintentional injury death by age group in 2015. The age groups used in the ranking done in this research note reflect categories of interest to NHTSA in terms of child-restraint programs (toddlers, infants, and young children), new drivers (youth and young adults), other adults, and older people.

Year-to-Year Comparisons: The coding of mortality data changed significantly in 1999. Therefore, the comparisons of the number of deaths and death rates from 1998 and before with the statistics for 1999 and later years may not be advisable. Also, cause-of-injury groups were updated in 2003, which may affect some WISQARS mortality reports. Since 1999, mortality data has been coded using International Classification of Disease—10th Revision (ICD-10). Mechanism and cause of injury are based on ICD-10 external cause of injury codes.



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

CDC maintains the web portal WISQARS (web-based Injury Statistics Query and Reporting System) that presents the leading causes of fatal injury in the United States going back to 1981. The rank order for some of the earlier years shown in Figure 1 was excerpted from the WISQARS website (www.cdc.gov/injury/wisqars/index.html).

The trend of rankings presented in Figures 1 and 2 should be viewed in the context of the coding changes and categorizations of causes of death over the time periods outlined above.

For More Information

This research note was written by Caitlin N. Webb, mathematical statistician, National Center for Statistics and Analysis, NHTSA. For questions regarding the information presented in this research note, please contact NCSAWEB@dot.gov.

The suggested APA format citation for this document is:

Webb, C. N. (2018, February). *Motor vehicle traffic crashes as a leading cause of death in the United States, 2015* (Traffic Safety Facts Crash•Stats. Report No. DOT HS 812 499). Washington, DC: National Highway Traffic Safety Administration.

This research note and other general information on highway traffic safety may be accessed by Internet users at: www-nrd.nhtsa.dot.gov/CATS/index.aspx



Top 10 Leading Causes of Death in the United States in 2015, by Age Group¹

National Highway Traffic Safety Administration's National Center for Statistics and Analysis

RANK	Cause and Number of Deaths											Years of Life Lost ²
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Elderly 65+	All Ages	
							25-34	35-44	45-64			
1	Perinatal Period 11,613	Congenital Anomalies 389	Malignant Neoplasms 360	MV Traffic Crashes 744	MV Traffic Crashes 3,114	MV Traffic Crashes 3,415	Accidental Poisoning 11,231	Malignant Neoplasms 10,909	Malignant Neoplasms 159,176	Heart Disease 507,138	Heart Disease 633,842	Malignant Neoplasms 23% (9,426,319)
2	Congenital Anomalies 4,825	Homicide 329	MV Traffic Crashes 279	Malignant Neoplasms 694	Suicide 2,441	Accidental Poisoning 2,820	Suicide 6,947	Accidental Poisoning 10,580	Heart Disease 111,120	Malignant Neoplasms 419,389	Malignant Neoplasms 595,930	Heart Disease 19% (7,767,386)
3	Heart Disease 292	Accidental Drowning 316	Congenital Anomalies 168	Suicide 663	Homicide 2,027	Suicide 2,798	MV Traffic Crashes 6,281	Heart Disease 10,387	Chronic Liver Disease 22,152	CLRD ⁵ 131,804	CLRD ⁵ 155,041	CLRD ⁵ 5% (1,880,774)
4	Homicide 263	Malignant Neoplasms 273	Accidental Drowning 163	Homicide 307	Accidental Poisoning 1,075	Homicide 2,601	Homicide 4,863	Suicide 6,936	CLRD ⁵ 131,804	Stroke 120,156	Stroke 140,323	Accidental Poisoning 4% (1,832,709)
5	Septicemia 180	MV Traffic Crashes 249	Homicide 136	Congenital Anomalies 261	Malignant Neoplasms 614	Malignant Neoplasms 747	Malignant Neoplasms 3,704	MV Traffic Crashes 4,652	Diabetes 20,378	Alzheimer's 109,495	Alzheimer's 110,561	Suicide 4% (1,553,110)
6	Influenza/Pneumonia 174	Heart Disease 132	Exposure to Smoke/Fire 70	Heart Disease 202	Heart Disease 352	Heart Disease 607	Heart Disease 3,522	Homicide 2,895	Accidental Poisoning 19,452	Diabetes 56,142	Diabetes 79,535	Stroke 4% (1,528,047)
7	Stroke 89	MV Nontraffic Crashes ⁴ 88	Heart Disease 61	Accidental Drowning 160	Accidental Drowning 261	Accidental Drowning 210	Chronic Liver Disease 844	Chronic Liver Disease 2,861	Stroke 17,423	Influenza/Pneumonia 48,774	Influenza/Pneumonia 57,062	MV Traffic Crashes 3% (1,349,898)
8	Nephritis/Nephrosis 85	Influenza/Pneumonia 76	CLRD ⁵ 55	CLRD ⁵ 135	Congenital Anomalies 181	Congenital Anomalies 159	Diabetes 798	Diabetes 1,986	Suicide 16,490	Nephritis/Nephrosis 41,258	Nephritis/Nephrosis 49,959	Diabetes 3% (1,237,459)
9	MV Traffic Crashes 57	Exposure to Smoke/Fire 73	MV Other/Nontraffic Crashes ⁴ 43	MV Other/Nontraffic Crashes ⁴ 91	MV Other/Nontraffic Crashes ⁴ 101	MV Other/Nontraffic Crashes ⁴ 129	Stroke 567	Stroke 1,788	MV Traffic Crashes 10,043	Septicemia 30,817	Accidental Poisoning 47,478	Chronic Liver Disease 2% (940,717)
10	Malignant Neoplasms 53	Perinatal Period ⁶ 45	Influenza/Pneumonia 41	Exposure to Smoke/Fire 69	Accidental Falls 83	Accidental Falls 128	HIV 529	HIV 1,055	Septicemia 8,316	Accidental Falls 28,486	Suicide 44,193	Perinatal Period 2% (922,063)
ALL³	23,455	3,376	2,096	4,995	12,461	16,942	51,517	73,088	532,279	1,992,283	2,712,630	All Causes 100% (41,462,779)

¹Overall, motor vehicle crashes are the 13th leading cause of death. When ranked by specific ages they are the leading cause of death for ages 10 and 16 to 23.

²Number of years calculated based on remaining life expectancy (2012 data from CDC) at time of death; percentages calculated as a proportion of total years of life lost due to all causes of death.

³Not a total of top 10 causes of death.

⁴Includes MV traffic deaths not in FARS (e.g., deaths that occurred more than 30 days after a MV traffic crash). A motor vehicle non-traffic crash is any vehicle crash that occurs entirely in any place other than a public traffic way.

⁵CLRD stands for Chronic Lower Respiratory Disease.

⁶Tied with septicemia.



Top 10 Leading Causes of Unintentional Injury Death in the United States in 2015, by Age Group¹

National Highway Traffic Safety Administration's National Center for Statistics and Analysis

RANK	Cause and Number of Deaths										
	Infants Under 1	Toddlers 1-3	Young Children 4-7	Children 8-15	Youth 16-20	Young Adults 21-24	Other Adults			Elderly 65+	All Ages
							25-34	35-44	45-64		
1	Unintentional Suffocation 1,125	Unintentional Drowning 316	Unintentional MV Traffic 279	Unintentional MV Traffic 744	Unintentional MV Traffic 3,114	Unintentional MV Traffic 3,415	Unintentional Poisoning 11,231	Unintentional Poisoning 10,580	Unintentional Poisoning 19,452	Unintentional Fall 28,486	Unintentional Poisoning 47,478
2	Unintentional MV Traffic 57	Unintentional MV Traffic 249	Unintentional Drowning 163	Unintentional Drowning 160	Unintentional Poisoning 1,075	Unintentional Poisoning 2,820	Unintentional MV Traffic 6,281	Unintentional MV Traffic 4,652	Unintentional MV Traffic 10,043	Unintentional MV Traffic 6,165	Unintentional MV Traffic 35,092
3	Unintentional Drowning 30	Unintentional Suffocation 120	Unintentional Fire/Burn 70	Unintentional MV Non-Traffic/Other Crash ³ 70	Unintentional Drowning 261	Unintentional Drowning 210	Unintentional Drowning 445	Unintentional Fall 492	Unintentional Fall 3,802	Unintentional Unspecified 5,204	Unintentional Fall 33,381
4	Unintentional Fire/Burn 22	Unintentional MV Non-Traffic/Other Crash ³ 85	Unintentional MV Non-Traffic/Other Crash ³ 39	Unintentional Fire/Burn 69	Unintentional Fall 83	Unintentional Fall 128	Unintentional Fall 324	Unintentional Drowning 374	Unintentional Suffocation 1,246	Unintentional Suffocation 3,837	Unintentional Unspecified 6,930
5	Unintentional MV Non-Traffic/Other Crash ³ 12	Unintentional Fire/Burn 76	Unintentional Suffocation 31	Unintentional Poisoning 67	Unintentional MV Non-Traffic/Other Crash ³ 76	Unintentional MV Non-Traffic/Other Crash ³ 106	Unintentional Unspecified 194	Unintentional Suffocation 240	Unintentional Unspecified 1,091	Unintentional Poisoning 2,198	Unintentional Suffocation 6,914
6	Unintentional Natural/Environment 12	Unintentional Fall 28	Unintentional Natural/Environment 24	Unintentional Suffocation 41	Unintentional Unspecified 62	Unintentional Unspecified 67	Unintentional Suffocation 181	Unintentional Unspecified 238	Unintentional Drowning 941	Unintentional Fire/Burn 1,171	Unintentional Drowning 3,602
7	Undetermined Unspecified 12	Unintentional Poisoning 27	Unintentional Struck by or Against 14	Unintentional Unspecified 31	Unintentional Firearm 55	Unintentional Suffocation 59	Unintentional Other Spec/Class 145	Unintentional Other Spec/Class 210	Unintentional Fire/Burn 937	Unintentional MV Non-Traffic/Other Crash ³ 1,070	Unintentional Fire/Burn 2,711
8	Unintentional Poisoning 9	Unintentional Struck by or Against 21	Unintentional Poisoning 13	Unintentional Firearm 26	Unintentional Suffocation 34	Unintentional Firearm 58	Unintentional Fire/Burn 139	Unintentional Fire/Burn 150	Unintentional Natural/Environment 553	Unintentional Drowning 699	Unintentional MV Non-Traffic/Other Crash 2,211
9	Unintentional Struck by or Against 5	Unintentional Firearm 20	Unintentional Unspecified 13	Unintentional Fall 23	Unintentional Fall 23	Unintentional Other Transport 46	Unintentional MV Non-Traffic/Other Crash ³ 117	Unintentional MV Non-Traffic/Other Crash ³ 141	Unintentional Other Spec/Class 531	Unintentional Natural/Environment 670	Unintentional Natural/Environment 1,579
10	Unintentional Fall 4	Unintentional Natural/Environment 20	Unintentional Fall 10	Unintentional Struck by or Against 21	Unintentional Other Transport 29	Unintentional Fire/Burn 43	Unintentional Other Transport 110	Unintentional Natural/Environment 134	Unintentional MV Non-Traffic/Other Crash ³ 523	Unintentional Other Spec., NEC 623	Unintentional Other Spec/Class 1,251
ALL³	1,291	1,013	691	1,373	5,013	7,177	19,795	17,818	40,987	51,395	146,571

¹Overall, motor vehicle crashes are the second leading cause of death. When ranked by specific ages, they are the leading cause of death for each age 3 and 5 to 23.

²Not a total of top 10 causes of death.

³Includes MV traffic deaths not in FARS (e.g., deaths that occurred more than 30 days after a MV traffic crash).

A motor vehicle non-traffic crash is any vehicle crash that occurs entirely in any place other than a public traffic way.

Data Source: National Center for Health Statistics, Mortality Data 2015; FARS 2015 Annual Report File.

Note: The cause of death classification is based on the NCSA Revised 68 Cause of Death Listing. This listing differs from the one used by the NCHS for its reports on leading causes of death by separating out unintentional injuries into separate causes of death, i.e., motor vehicle traffic crashes, accidental falls, motor vehicle nontraffic crashes, etc. Accordingly, the rank of some causes of death will differ from those reported by the NCHS. This difference will mostly be observed for minor causes of death in smaller age groupings.